National Climatic Data Center

DATA DOCUMENTATION

FOR

DATASET 9618

GLOBAL SUMMARY OF THE DAY

May 31, 2002

National Climatic Data Center
151 Patton Ave.
Asheville, NC 28801 – 5001 USA

Table of Contents

1.   **Abstract:**

Four files are included in this product. These files contain summarized data which have been extracted from surface synoptic weather observations, exchanged on the Global Telecommunications Systems (GTS). The National Meteorological Center (NMC) of NOAA maintains an archive file of the complete surface synoptic reports which are received from the GTS. The Climate Analysis Center (CAC) extracts portions of these NMC archive files, performs an automated decode of extreme temperatures and accumulated precipitation according to WMO code manuals, and performs limited automated validation of the parameters. The data for all reporting stations are summarized on a daily basis to satisfy current operational requirements related to the assessment of crop and energy production.

FILE #1.   Header file which explains the contents of the four files.

FILE #2   Daily summarized values of maximum temperature, minimum temperature and precipitation for each reporting station for one month.

FILE #3   Monthly summary of up to 31 daily summary files. Average temperatures have been computed from the daily maxima and minima for each station. The highest and lowest temperatures reported during lowest temperatures reported during the month and their dates, the total accumulated precipitation for the month, and the number of reports with present or past weather codes indicating the occurrence of precipitation are also saved.

FILE #4 Station library consisting of the location identifier, latitude, longitude, elevation, country number, region number, quality indicator, call letters, station name and country name.

2.   **Element Names and Definitions**:

FILE 2.   DAILY SUMMARY FILE.

THIS FILE CONTAINS THE FOLLOWING FIELDS:

    1. IDATE - Greenwich mean date of data, in the form YYYYMMDD.
    2.
        FORMAT = I8

    2. BKIDN - WMO 5-digit station identifier or 99 followed by
        a 3 letter airways call sign for those locations
        for which no WMO number has been assigned.

        FORMAT = A5

    3. RMAX - 24 hour maximum temperature. May be estimated from
       reported synoptic air temperatures if sufficient data exist.

        UNITS   = DEGREES CELSIUS.
        FORMAT = F5.1
        MISSING = -99.9

    4. RMIN - 24 hour minimum temperature. May be estimated from
        reported synoptic air temperatures if sufficient data exist.

        UNITS   = DEGREES CELSIUS.

```
        FORMAT  = F5.1
        MISSING = -99.9


  5.  RPRCP - total of precipitation reported during the 24 hour
      period. This amount may include precipitation which
      fell during the previous 24 hour period put was not included
      in the previous days summary record.

        UNITS   = MILLIMETERS.
        FORMAT  = F6.1
        MISSING = -99.9


  6.  EPRCP - total of precipitation including estimates for any
      period for which there was no reported amount.

        UNITS   = MILLIMETERS.
        FORMAT  = F6.1
        MISSING = -99.9


  7.  VP - VAPOR PRESSURE

        UNITS   = MILLIBARS
        FORMAT  = F6.2
        MISSING = -9.99


  8.  POTEV - POTENTIAL EVAPOTRANSPIRATION

        UNITS   = MILLIMETERS
        FORMAT  = F6.2
        MISSING = -9.99


  9.  VPD - VAPOR PRESSURE DEFICIT

        UNITS   = MILLIBARS
        FORMAT  = F6.2
        MISSING = -9.99


 10.  SLP06 = 0600Z SEA LEVEL PRESSURE
 11.  SLP12 = 1200Z SEA LEVEL PRESSURE
 12.  SLP18 = 1800Z SEA LEVEL PRESSURE
 13.  SLP00 = 0000Z SEA LEVEL PRESSURE

        UNITS   = MILLIBARS
        FORMAT  = F6.1
        MISSING = -99.9


 14. APTMX - MAXIMUM APPARENT TEMPERATURE

        UNITS   = DEGREES CELSIUS
        FORMAT  = F6.1
        MISSING = -99.9


 15. CHILLM - MINIMUM WIND CHILL

        UNITS   = DEGREES CELSIUS
        FORMAT  = F5.1
        MISSING = -99.9


 16.  RAD - NET RADIATION
```

```
       UNITS  = ???
       FORMAT = F5.2
       MISSING = -9.99


17.  MAXFL - MAXIMUM TEMPERATURE FLAG.
      0   - value from reported extreme temperature
      1-3 - value derived from air temperatures
      9   - extreme temperature missing

     FORMAT  = I1


18.  MINFL - MINIMUM TEMPERATURE FLAG.
     Values have the same meaning as field 14.

     FORMAT  = I1


19.  IFPRQ - PRECIPITATION QUALITY FLAG
     0 - the amount was obtained from a 24 hour precipitation
         value.
     3 - the amount was obtained from totaling reported amounts
         for periods less than 24 hours.
     9 - the reported amounts were missing.

     FORMAT  = I1


20.  IFPRT - precipitation time flag indicating the ending time
     of the 24 hour period that the precipitation was summarized.

     1 = 0300Z
     2 = 0600Z
     3 = 0900Z
     4 = 1200Z
     5 = 1500Z
     6 = 1800Z
     7 = 2100Z
     0 = 2400Z.

     A 9 indicates 0600z on the day after the greenwich
     date indicated in field 1.

     FORMAT  = I1


21.  NOBS - number of 3 hour periods for which at least one
     reported weather value was received.

     FORMAT  = I1


22.  NOBSP - number of 3 hour periods during the day in which
     past or present weather indicated precipitation. Will always
     be less than or equal to field 21.  The following tables of
     present/past weather are used to determine if precipitation
     has occurred:

   Table Of Present Weather Indicating Precipitation Occurrence

  0 - does not count toward number of observations with
      precipitation.
  1 - counts toward number of observations with precipitation.
```

```
                    1'S DIGIT OF PRESENT WEATHER CODE

                     0   1   2   3   4   5   6   7   8   9
                   -----------------------------------------
                   00 ! 0   0   0   0   0   0   0   0   0   0
       10'S        10 ! 0   0   0   1   0   1   1   1   1   1
       DIGIT       20 ! 1   1   1   1   1   1   1   1   0   1
        OF         30 ! 0   0   0   0   0   0   0   0   0   0
      PRESENT      40 ! 0   0   0   0   0   0   0   0   0   0
      WEATHER      50 ! 1   1   1   1   1   1   1   1   1   1
       CODE        60 ! 1   1   1   1   1   1   1   1   1   1
                   70 ! 1   1   1   1   1   1   1   1   1   1
                   80 ! 1   1   1   1   1   1   1   1   1   1
                   90 ! 1   1   1   1   1   1   1   1   1   1
                   -----------------------------------------


      Table of past weather indicating precipitation occurrence

                       PAST WEATHER DIGIT

           0   1   2   3   4   5   6   7   8   9
          -------------------------------------------
           0   0   0   0   0   1   1   1   1   1
```

FORMAT I1

23. NOPE - NUMBER OF 6 HOUR PERIODS THAT PRECIPITATION WAS ESTIMATED.

FORMAT I1

24. NTRACE - PRECIPITATION TRACE INDICATOR

0 - NO PRECIPITATION OR A MEASURABLE AMOUNT RECEIVED.
1 - PRECIPITATION OF LESS THAN A MEASURABLE AMOUNT WAS RECEIVED.

FORMAT I1

25 - 32. IWW - PRESENT/PAST WEATHER CHARACTER FLAGS.

8 - 1 character flags indicating general form of most
significant present or past weather for each of the 8
synoptic reporting times. The position of the flag
from left to right indicates the time of observation, i.e.
position 1 is for the first 3 hours summarized and position
8 is for the last 3 hour period that was summarized for that
station. A ' - ' indicates that no station report was available
for that time period.   '/' Indicates neither
present nor past weather reported. The other codes
available are in the following tables of present/past
weather.

```
                  TABLE OF PRESENT WEATHER CHARACTER FLAGS
                  DERIVED FROM NMC OFFICE NOTE 124, CODE TABLE 4.

                     1'S DIGIT OF PRESENT WEATHER

                 0    1    2    3    4    5    6    7    8    9
              -------------------------------------------
   10'S    00 !  0    0    0    0    K    H    D    D    D    D
   DIGIT    10 !  M    G    G    U    V    X    X    T    Q    Y
   OF       20 !  L    R    S    S    Z    R    S    A    F    T
 PRESENT    30 !  D    D    D    D    D    D    J    J    B    B
 WEATHER    40 !  F    F    F    F    F    F    F    F    E    E
            50 !  L    L    L    L    L    L    Z    Z    R    R
            60 !  R    R    R    R    R    R    Z    Z    S    S
            70 !  S    S    S    S    S    S    I    S    C    P
            80 !  R    R    R    S    S    S    S    S    S    A
            90 !  A    T    T    A    A    T    A    T    T    A
              -------------------------------------------

                  TABLE OF PAST WEATHER CHARACTER FLAGS.
                  FROM NMC OFFICE NOTE 124, CODE TABLE 5.

                        PAST WEATHER DIGIT

              0    1    2    3    4    5    6    7    8    9
           -------------------------------------------
              0    0    0    B    F    L    R    S    W    T
```

FORMAT 8A1.

33. MXRH - THE MAXIMUM RELATIVE HUMIDITY.

    FORMAT = I3.
    MISSING = -99

34. MNRH - THE MINIMUM RELATIVE HUMIDITY.

    FORMAT = I3.
    MISSING = -99

35. IFVPQ - VAPOR PRESSURE QUALITY FLAG.

    FORMAT = I1
    MISSING = 9

36 - 59. TOTAL SKY COVER, WIND DIRECTION, WIND SPEED FOR EACH
    3 HOUR TIME PERIOD 03Z - 06Z - 09Z - 12Z - 15Z - 18Z - 21Z - 00Z.

    UNITS - SKY COVER 8THS 9 IS OBSCURED
             WIND DIRECTION (* must be multiplied by 10 to get proper

```
                                      value. Example: 21 = 210.0 degrees *)
              WIND SPEED KNOTS

         FORMAT  = I2,I2,I3
         MISSING 99 99  -99

     60.  TOTAL SNOW DEPTH (WHEN REPORTED, ZERO SNOW DEPTH IS NOT
          REPORTED AND IS INDICATED AS MISSING IN THIS FILE)

         FORMAT = I5
         MISSING = -999
```

* *
FILE 3. MONTHLY SUMMARY FILE.

        THIS FILE CONTAINS THE FOLLOWING FIELDS:

    1. IDATE - YEAR AND MONTH OF DATA, IN FORM YYYYMM.
        FORMAT = I6

    2. BKIDN - 5 CHARACTER STATION IDENTIFIER. THE 5 CHARACTERS
        ARE THE WMO BLOCK STATION NUMBER WHEN ASSIGNED OR 99 FOLLOWED
        BY THE 3 CHARACTER AIRWAYS CALLSIGN WHEN NO WMO BLOCK STATION
        HAS BEEN ASSIGNED.
        FORMAT - A5.

    3. TMEAN - AVERAGE DAILY MEAN TEMPERATURE COMPUTED FROM ALL
        PAIRED DAILY MAXIMUM AND MINIMUM TEMPERATURES.

        UNITS   = DEGREES CELSIUS.
        FORMAT = F5.1
        MISSING = -99.9

    4. TMAX - AVERAGE DAILY MAXIMUM TEMPERATURE.

        UNITS   = DEGREES CELSIUS.
        FORMAT = F5.1
        MISSING = -99.9

    5. TMIN - AVERAGE DAILY MINIMUM TEMPERATURE.

        UNITS   = DEGREES CELSIUS.
        FORMAT = F5.1.
        MISSING = -99.9

    6. HMAX - THE HIGHEST MAXIMUM TEMPERATURE REPORTED DURING MONTH

        UNITS   = DEGREES CELSIUS.
        FORMAT = F5.1
        MISSING = -99.9

    7. RMINL - THE LOWEST MINIMUM TEMPERATURE REPORTED DURING MONTH

        UNITS   = DEGREES CELSIUS.
        FORMAT = F5.1
        MISSING = -99.9

    8. CTMEAN - THE REPORTED MONTHLY CLIMATE TEMPERATURE.

9. APTMAX - AVERAGE MAXIMUM APPARENT TEMPERATURE.

```
UNITS   = DEGREES CELSIUS
FORMAT  = F5.1
MISSING = -99.9
```

10. WCMIN - AVERAGE MINIMUM WIND CHILL TEMPERATURE.

```
UNITS   = DEGREES CELSIUS
FORMAT  = F5.1
MISSING = -99.9
```

11. HMAXAPT - HIGHEST DAILY MAXIMUM APPARENT TEMPERATURE DURING MONTH

```
UNITS   = DEGREES CELSIUS
FORMAT  = F5.1
MISSING = -99.9
```

12. WCLMINL - LOWEST DAILY MINIMUM WIND CHILL TEMPERATURE DURING MONTH

```
UNITS   = DEGREES CELSIUS
FORMAT  = F5.1
MISSING = -99.9
```

13. RPCP - TOTAL REPORTED PRECIPITATION FOR MONTH.

```
UNITS   = MILLIMETERS
FORMAT  = F7.1
MISSING = -99.9
```

14. EPCP - TOTAL PRECIPITATION INCLUDING ESTIMATES FOR ANY PERIODS
          THAT REPORTED AMOUNTS WERE NOT AVAILABLE.

```
UNITS   = MILLIMETERS
FORMAT  = F7.1
MISSING = -99.9
```

15. CPCP - TOTAL PRECIPITATION REPORTED IN CLIMAT MESSAGE.
    (NOTE - - CLIMAT REPORTS PRECIPITATION TO THE NEAREST WHOLE
          MILLIMETER. THE CAC USES ITS PRECIPITATION REPORTED
          TO A TENTH WHEN THE DIFFERENCE COULD HAVE BEEN DUE
          TO ROUNDING OF THE CLIMAT VALUE.

```
UNITS   = MILLIMETERS
FORMAT  = F7.1
MISSING = -99.9
```

16. EPCPMX - MAXIMUM DAILY PRECIPITATION INCLUDING ESTIMATES.

```
UNITS   = MILLIMETERS
FORMAT  = F5.1
MISSING = -99.9
```

17. AHS - AVERAGE HOURS OF SUNSHINE

```
UNITS   = HOURS
FORMAT  = F5.2
MISSING = -9.99
```

9

18. AVP - AVERAGE VAPOR PRESSURE

```
UNITS   = MILLIBARS
FORMAT  = F5.2
MISSING = -9.99
```

19. APET - AVERAGE PAN EVAPORTRANSPORATION

```
UNITS   = MILLIMETERS
FORMAT  = F5.2
MISSING = -9.99
```

20. AVPD - AVERAGE VAPOR PRESSURE DEFICIT

```
UNITS   = MILLIBARS
FORMAT  = F5.2
MISSING = -9.99
```

21. RSV1 - RESERVED

```
FORMAT  = F6.1
MISSING = -99.9
```

22. TRAD - AVERAGE TOTAL RADIATION

```
UNITS   =
FORMAT  = F5.2
MISSING = -9.99
```

23. AMAXRH - AVERAGE MAXIMUM RELATIVE HUMIDITY.

```
UNITS   = PERCENT
FORMAT  = F5.0
MISSING = -999.
```

24. AMINRH - AVERAGE MINIMUM RELATIVE HUMITITY.

```
UNITS   = PERCENT
FORMAT  = F5.0
MISSING = 999.
```

25. IHDD - TOTAL HEATING DEGREE DAYS.

```
FORMAT  = I5
MISSING = -999
```

26. ICDD - TOTAL COOLING DEGREE DAYS.

```
FORMAT  = I5
MISSING = -999
```

27. IGDD - TOTAL GROWING DEGREE DAYS.

```
FORMAT  = I5
MISSING = -999
```

28. NRADV - NUMBER OF RADIATION VALUES

```
FORMAT  = I3
```

```
          MISSING = 0

29. IRSV2 - RESERVED

    FORMAT  = I4
    MISSING = 0

30. NOBS - NUMBER OF OBSERVATIONS

    FORMAT  = I4
    MISSING = 0

31. NOBSP - NUMBER OF OBSERVATIONS WITH PRECIPITATION

    FORMAT  = I4
    MISSING = 0

32. N6HE - NUMBER OF 6 HOUR PERIODS THAT PRECIPITATION ESTIMATED

    FORMAT  = I4
    MISSING = 0

33. NPMXMN - NUMBER OF PAIRED MAXIMUM AND MINIMUM TEMPERATURES

    FORMAT  = I3
    MISSING = 0

34. NMX - NUMBER OF DAILY MAXIMUM TEMPERATURES

    FORMAT  = I3
    MISSING = 0

35. NMN - NUMBER OF DAILY MINIMUM TEMPERATURES

    FORMAT  = I3
    MISSING = 0

36. MXDAT - DATE THE MAXIMUM MONTHLY TEMPERATURE OCCURRED

    FORMAT  = I8
    MISSING = -999

37. MNDAT - DATE THE MINIMUM MONTHLY TEMPERATURE OCCURRED

    FORMAT  = I8
    MISSING = -999

38. NDPR - DAYS MEASURABLE PRECIPITATION REPORTED

    FORMAT  = I3
    MISSING = 0

39. NDTPR - NUMBER OF DAYS A TRACE OF PRECIPITATION REPORTED

    FORMAT  = I3
    MISSING = 0

40. NMAPT - NUMBER OF DAILY MAXIMUM  APPARENT TEMPERATURES
```

```
            FORMAT  = I3
            MISSING = 0

    41.  NMWC - NUMBER OF DAILY MINIMUM WIND CHILL VALUES

            FORMAT  = I3
            MISSING = 0

    42.  NSV - NUMBER OF DAILY SUNSHINE VALUES

            FORMAT  = I3
            MISSING = 0

    43.  NVPT - NUMBER OF DAILY VAPOR PRESSURE VALUES

            FORMAT  = I3
            MISSING = 0

    44.  NPET - NUMBER OF DAILY PAN EVAPORATION VALUES

            FORMAT  = I3
            MISSING = 0

    45.  NMXRH - NUMBER OF DAILY MAXIMUM RELATIVE HUMIDITY VALUES

            FORMAT  = I3
            MISSING = 0

    46.  NMNRH - NUMBER OF DAILY MINIMUM RELATIVE HUMIDITY VALUES

            FORMAT  = I3
            MISSING = 0

    47.  MXAPTD - DATE MONTHLY MAXIMUM APPARENT TEMPERATURE OCCURRED

            FORMAT  = I6
            MISSING = -999

    48.  MNWCD - DATE MONTHLY MINIMUM WIND CHILL OCCURRED

            FORMAT  = I8
            MISSING = -999

    49   MXPCPD - DATE THE MAXIMUM DAILY PRECIPITATION OCCURRED

            FORMAT  = I8
            MISSING = -999

    50   NDAYS - NUMBER OF DAYS IN THE MONTH

            FORMAT  = I3

* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
FILE 4. STATION LIBRARY

        THIS FILE CONTAINS THE FOLLOWING FIELDS:

    1.  BKIDN -  5 CHARACTER STATION IDENTIFIER. THE 5 CHARACTERS
        ARE THE WMO BLOCK STATION NUMBER WHEN ASSIGNED OR 99 FOLLOWED
```

BY THE 3 CHARACTER5 AIRWAYS CALLSIGN WHEN NO WMO BLOCK STATION
HAS BEEN ASSIGNED.

FORMAT - A5

2. LAT -   LATITUDE DEGREES TIMES 100 SOUTHERN LATITUDES ARE NEGATIVE.
RANGE -9000 TO 9000.

FORMAT - I6

3. LON -   LONGITUDE DEGREES TIMES 100 EXPRESSED IN NUMBER OF DEGREES
WEST OF GREENWICH. RANGE 0 TO 35999

FORMAT - I7

4. IELEV - ELEVATION ABOVE SEA LEVEL IN METERS

FORMAT - I6

5. NUMCOU - A NUMBER ASSIGNED TO EACH COUNTRY BY CAC.

FORMAT - I3

6. NUMREG - A REGION NUMBER ASSIGNED BY CAC.

FORMAT - I3

7. IQUAL - A QUALITY NUMBER ASSIGNED BY CAC. LOCATIONS WHICH WE
CONSIDER THE BEST ARE ASSIGNED 0. ALL OTHERS ARE
ASSIGNED 1.

FORMAT - I2

8. CALL - AIRWAYS CALL LETTERS USED IN THE UNITED STATES OF AMERICA
AND CANADA.

FORMAT - A4

9. LNAME - LOCATION NAME.

FORMAT - A23

10. CNAME - REGION NAME.

FORMAT - A20

3.   Start Date:

 October 1977

4.   Stop Date:

current

5.   Coverage:

a. Southernmost Latitude: 90S

b. Northernmost Latitude: 90N
   c. Westernmost Longitude: 180W
   d. Easternmost Longitude: 180E

6.   How to Order Data:

   National Climatic Data Center
   Climate Services Branch
   Federal Building
   151 Patton Avenue,
   Asheville, NC 28801-5001

   Phone number: (828)271-4800
   Internet address: http://lwf.ncdc.noaa.gov/oa/ncdc.html
   E-mail: ncdc.orders@noaa.gov (Orders)
                      ncdc.info@noaa.gov   (Information)

7.   Archiving Data Center:

   National Climatic Data Center, NOAA/NESDIS/NCDC
   Federal Building
   151 Patton Avenue
   Asheville, NC 28801-5001

8.   Technical Contact:

   George Fulwood/Bob Churchill/Joanna Dionne
   Climate Analysis Center
   WD53, WWB, Room 805
   Washington, DC 20233
   Telephone: 301-763-4670

9.   Known Uncorrected Problems:

10. Quality Statement:

If the maximum or minimum temperatures are not reported they are estimated
from reported air temperatures in the regular synoptic reports when sufficient
data exist.

*** Note - the snow file is only available for the period october 1977 to
december 1986

11. Essential Companion Datasets:

12. References: